



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,552	06/04/2007	Stephanus Gerardus Johannes Blackenborg	903-201 PCT/US	4494
23869	7590	11/06/2009		
HOFFMANN & BARON, LLP 6900 JERICO TURNPIKE SYOSSET, NY 11791			EXAMINER EOFF, ANCA	
			ART UNIT	PAPER NUMBER
			1795	
			MAIL DATE	DELIVERY MODE
			11/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,552	Applicant(s) BLACKENBORG, STEPHANUS GERARDUS JOHANNE	
	Examiner ANCA EOFF	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
 4a) Of the above claim(s) 26-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/19/2009, 10/10/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The foreign priority document No. 1025774, filed in the Netherlands on March 19, 2004 was received and acknowledged. However, in order to benefit of the earlier filing date, a certified English translation is required.

Election/Restrictions

2. In response to the restriction requirement formulated in the previous Office Action, the applicant elected with traverse Group I, claims 15-25.

Applicant's election with traverse of Groups II and III in the reply filed on August 26, 2009 is acknowledged. The traversal is on the grounds that Groups I, II and III of the invention relate to a single general inventive concept under PCT Rule 13.1. This is not found persuasive because with respect to a group of inventions claimed in an international application, unity of invention exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" is defined in PCT Rule 13.2 as meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art. (see MPEP 1850.II. Determination of "Unity of Invention")

The invention of Group III (base material for screen printing comprising an electroformed screen, a resist layer and a protective film) does not make a contribution over the prior art (see Cairncross et al. (US Patent 5,573,815) in column 4, line 36 and

Art Unit: 1795

column 8, line 20 and Ichimura et al. (US Patent 5,246,815), fig.2). Group III lacks a “special technical feature”.

Therefore, Groups I, II and III do not have a technical relationship involving a “special technical feature” (technical feature defining a contribution made over the prior art) and the claimed inventions lack unity.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 26-29 withdrawn from consideration as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15, 22 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichimura et al. (US Patent 5,246,815).

With regard to claim 15, Ichimura et al. teach a process comprising the following steps of:

a) forming a photosensitive material (4) by applying the photosensitive resin compositions (A) (2) and B(3) in uniform thickness to a plastic film (1) and drying (see fig. 1 and column 6, lines 33-35), wherein the photosensitive resin composition (A) is applied first to the polyester film and it is dried (column 7, lines 62-66) and then the

Art Unit: 1795

photosensitive resin composition (B) is applied thereto (column 7, line 67-column 8, line 1).

This step is equivalent to the steps a)-c) of the instant application, wherein

- the plastic film (1) of Ichimura et al. is equivalent to the protective film of the instant application,

- the photosensitive composition (A) of Ichimura et al. is equivalent to the first resist layer of the instant application and

- the photosensitive composition (B) of Ichimura et al. is equivalent to the additional resist layer of the instant application.

b) wetting the photosensitive material (4) with water and contact-bonding to a screen plate (5) with the squeegee (6) (see fig. 2 and column 6, lines 36-38).

Fig. 2 clearly shows that the screen plate (5) is applied on the photosensitive layer (B) (3), which is equivalent to the additional resist layer of the instant application.

The step of wetting with water of Ichimura et al. meets the limitation for the “additional layer to which the screen is applied being wet” of the instant application.

Ishimura et al. further disclose that the squeegee (6) performs the function of “squeezing” (column 6, line 43), so the contact-bonding with a squeegee (6) is equivalent to the “pressing under pressure from a pressure-exerting element” of the instant application.

Fig. 2 clearly shows the squeegee (6) in direct contact with the screen plate (5).

With regard to claim 22, Ichimura et al. shows Example 1 wherein the photosensitive composition layer (A)/first resist forms on the polyester film a layer of

Art Unit: 1795

30 μ m (column 7, lines 62-66) and the photosensitive composition (B)/additional resist forms a coating film has a thickness of 1 μ m (column 7, line 67-column 8, line 1).

With regard to claim 24, Ichimura et al. show that the photosensitive resin (A) is a photopolymerizable composition (see column 2, lines 30-32) and the photosensitive resin (B) comprises a polymer with photocrosslinkable units (see column 2, lines 35-36).

It is known in the art, as evidenced by Garito et al. (US Patent 4,439,514) in column 4, lines 34-36 that negative-working resists operate through bond-formation mechanisms, such as crosslinking and polymerization.

The photopolymerizable composition (A) and the photocrosslinkable composition (B) of Ichimura et al. are both negative-type resists and the limitation of the instant application that the "additional resist layer comprises the same type of resist as the first resist layer" is met.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Shirataki et al. (US Patent 4,668,329).

Art Unit: 1795

With regard to claim 17, Ichimura et al. teach the process of claim 15 (see paragraph 4 above), wherein the layer formed by the composition (B) is dried and then wetted with water before being bonded with the screen (see column 6, lines 33-38).

Ichimura et al. fail to teach that the layer of composition (B) may be bonded to the screen without a drying step being performed.

Shirataki et al. teach a method for applying an emulsion onto a screen-printing plate, wherein an emulsion film having an emulsion applied thereon is contacted closely with a screen (abstract).

Shirataki et al. further teach that an emulsion film (1) comprises the substrate (2) and the photosensitive emulsion film (3) in a predetermined thickness, wherein the film (3) is releaseably coated on the substrate (2). The emulsion film 1 contacts the screen-printing plate S and water as penetrating agent D is applied to the film (3) to cause it to adhere to the screen (fig. 1 and 2, column 3, lines 22-45).

The process of Shirataki et al. clearly shows that the photosensitive layer (3) is not dried after the application to the substrate (2) and before the contact with the screen S.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the photosensitive layer (B)/additional resist on top of the layer of photosensitive composition (A)/additional resist of Ichimura et al. and then to proceed to the contact-bonding with the screen, without a drying step.

Art Unit: 1795

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Reed et al. (US Patent 4,216,019).

With regard to claim 17, Ichimura et al. teach the process of claim 15 (see paragraph 4 above). Ichimura et al. further teach that the screen may be a polyester screen (see Example 2, column 8, lines 29-30) but fail to disclose the electroformed screen of the instant application.

Reed et al. teach a method for producing a stencil for use in screen printing, said method comprising coating a screen mesh with a liquid photopolymerizable composition (abstract), wherein the screen mesh may be polyester or an electroformed mesh (column 3, lines 60-66).

As Reed et al. shows that a polyester screen and an electroformed screen are functionally equivalent as screen meshes to be used with photosensitive compositions, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an electroformed screen in the process of Ichimura et al., with a reasonable expectation of success.

8. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Ichimura et al. (US Patent 4,564,580).

With regard to claim 17, Ichimura et al. ('815) teach the process of claim 15 (see paragraph 4 above), wherein the contact-bonding of the screen with the photosensitive layer (B) is done by squeezing with the squeegee (column 6, lines 31-43).

Art Unit: 1795

However, Ichimura et al. ('815) fail to teach the roller of the instant application.

Ichimura et al. ('580) teach a photosensitive composition which may be coated on a screen mesh and may be used as photosensitive material for screen printing (column 11, lines 27-30). The composition may be coated and dried on a peelable film and may be transferred on a screen mesh (column 11, lines 36-42).

Ichimura et al. ('580) further teach that the screen and the photosensitive coating on a polyester film are bonded and the assembly is pressed from the screen side by a rubber roller or a squeegee (see Application Example D2 in column 25, lines 39-51).

As Ichimura et al. ('580) shows that a rubber roller and a squeegee are functionally equivalent for bonding a photosensitive composition and a screen mesh, it would have been obvious to one of ordinary skill in the art to use a roller in the process of Ichimura et al. ('815), with a reasonable expectation of success.

The rubber roller of Ichimura et al. ('580) meets the limitation for a "compressible roller" of claim 21 (page 9, lines 23-28 of the specification teach a rubber roller as a compressible roller).

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Ichimura et al. (US Patent 4,564,580) as applied to claim 18 and in further view of Stewart et al. (EP 0 427 382).

With regard to claim 19, Ichimura ('815) modified by Ichimura ('580) teach the process of claim 18 (see paragraph 8 above) but fail to disclose the roller of the instant application.

Stewart et al. teach an apparatus for applying a stencil film to a screen (abstract).

Art Unit: 1795

The apparatus comprises a cartridge (14) for the film (1) and the screen (30) with mesh fabric (28) (see fig. 2, column 5, lines 34-36, column 6, lines 14-15).

An impressing/counterpressure device (34) presses the film onto the fabric (28) of the screen (abstract, column 6, lines 49-51) and such device (34) may be a squeegee or an indented or embossed roller (column 6, lines 32-40).

As Stewart et al. show that an indented or embossed roller and a squeegee are functionally equivalent for bonding a film and a screen mesh, it would have been obvious to one of ordinary skill in the art to use an indented or embossed roller in the process of Ichimura et al. ('815) modified by Ichimura ('580), with a reasonable expectation of success.

The indented or embossed roller is equivalent to the roller with a coating material with an open-cell structure of the instant application.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Ichimura et al. (US Patent 4,564,580) as applied to claim 18 and in further view of Sano et al. (US Patent 4,302,528).

With regard to claim 20, Ichimura ('815) modified by Ichimura ('580) teach the process of claim 18 (see paragraph 8 above) but fail to disclose that the roller makes contact with the screen in a tangential direction over a length less than the diameter of the openings of the screen.

Sano et al. teach a process of producing a photocurable material used as stencils for screen printing (abstract). Sano et al. further teach that a screen (2) is

Art Unit: 1795

coated with photocurable resin (5), it is placed between the films (3) and (4) and it is passed through the rollers (1) (see figures and column 4, lines 27-35).

The rollers (1) can be arranged horizontally, vertically or in an angle (column 4, lines 40-42).

As Sano shows that rollers used for the formation of photosensitive coatings on screens can be arranged in an angle, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the roller of Ichimura ('815) modified by Ichimura ('580) in an angle relative to the screen mesh, with a reasonable expectation of success.

This is equivalent to the "roller makes direct contact with the screen in the tangential direction".

As shown in fig. 1 of the instant application, a roller contacting the screen in a tangential direction, contacts the screen over a length less than the diameter of the openings of the screen at the contact surface of the screen. Therefore, the roller of Ichimura ('815) modified by Ichimura ('580) and Sano meets this limitation.

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815).

With regard to claim 23, Ichimura et al. shows that the photosensitive resin composition (B) must form a layer with a thickness of at least 10 μm (column 5, lines 10-13).

Art Unit: 1795

While Ichimura et al. do not specifically teach a layer of composition (B) of 10 μm , it would have been obvious to one of ordinary skill in the art at the time of the invention to obtain such a layer, based on the teaching regarding the minimum thickness required for the layer of composition (B).

The layer of photosensitive composition (B) is equivalent to the additional resist layer of the instant application.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichimura et al. (US Patent 5,246,815) in view of Gervay (US Patent 4,937,172).

With regard to claim 25, Ichimura et al. teach the method of claim 15 (see paragraph 4 above), wherein a photopolymerizable composition (A) is coated on a substrate and then a photocrosslinkable composition (B) is coated on top of the layer (A) (see column 2, lines 25-36).

Ichimura et al. fail to teach the steps i) and ii) of the instant application.

However, it is conventional in the art to store photosensitive compositions in a roll form with the composition sandwiched between a support film and a cover sheet. The material is unwound from a roll and the cover sheet is removed from contact with the photosensitive composition prior to use, as shown by Gervay in column 1, lines 14-23.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to store in a roll form the photosensitive composition (A) of Ichimura et al. sandwiched between a support film and a coverset, as shown by Gervay and to remove the coversheet prior to the use/application of the photosensitive

Art Unit: 1795

composition (B), such steps being conventionally known for photosensitive compositions.

The cover sheet of Ichimura modified by Gervay is equivalent to the separating sheet of the instant application.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/593,552
Art Unit: 1795

Page 13

/A. E./
Examiner, Art Unit 1795

/Cynthia H Kelly/
Supervisory Patent Examiner, Art Unit 1795